

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1. (Currently Amended) A safety door system, for a hopper body containing a powered implement powered by a hydraulic motor in a hydraulic control system, comprising:

a hopper body having a V-shaped floor for transporting liquid or granular materials, and further including a powered implement for dispensing the liquid or granular materials from an opening in the hopper body or for agitating the liquid or granular materials;

a safety door for covering and preventing access into the hopper body during use, hinged along a first edge to a corresponding first side of the hopper body and moveable between a closed and an open position;

a hydraulic actuating cylinder coupled between a second edge of the safety door and a corresponding second side of the hopper body and operative to open the safety door when the hydraulic actuating cylinder extends its length and to close the safety door when the hydraulic actuating cylinder retracts its length; and

an interlock device coupled between the hydraulic actuating cylinder and the hydraulic control system such that comprising:

a solenoid-operated, normally open dump valve coupled in a supply path of hydraulic fluid to the hydraulic motor and operable to divert the flow of hydraulic fluid from the supply path to a fluid reservoir; and

a proximity switch coupled to the hydraulic cylinder such that contacts in the proximity switch operate the solenoid-operated, normally open dump valve before the hydraulic cylinder has extended its length by more than a predetermined amount as the door panel is opened wherein

the powered implement within the hopper body is prevented from operating whenever the safety door is not in a substantially closed position.

2. (Original) The safety door system of claim 1, wherein the powered implement is a rotating screw conveyor for dispensing the liquid or granular materials from an opening in the hopper body.

3. (Original) The safety door system of claim 2, wherein the screw conveyer is driven by a first hydraulic motor and mounted in the bottom of the hopper body for dispensing the liquid or granular materials from an outlet disposed in a lower-most portion of the V-shaped floor.

4. (Original) The safety door system of claim 1, wherein the powered implement is a rotating paddle shaft for agitating the liquid or granular materials.

5. (Original) The safety door system of claim 3, wherein the paddle shaft is driven by a second hydraulic motor and located above the screw conveyer in the hopper body for agitating the liquid or granular materials.

6. (Original) The safety door system of claim 1, wherein the liquid or granular materials include asphalt mix for repairing potholes in pavements.

7. (Original) The safety door system of claim 1, wherein the hopper body is configured for transport on a truck chassis.

8. (Original) The safety door system of claim 1, wherein the safety door system comprises a bifold door having first and second panel pairs operated respectively by first and second hydraulic cylinders.

9. (Original) The safety door system of claim 1, wherein the safety door system comprises at least a single door panel operated by at least a single hydraulic cylinder.

10. (Original) The safety door system of claim 1, wherein the safety door system comprises a multiple panel door operated by at least one hydraulic cylinder.

11. (Original) The safety door system of claim 1, wherein the hydraulic cylinder changes its length in a direction approximately orthogonal to a radius arm formed by the door panel that pivots about the hinged first edge of the door panel as the door panel is opened or closed.

12. (Cancelled)

13. (Currently Amended) The safety door system of claim 12, wherein the interlock device causes interruption in the flow of hydraulic fluid to the hydraulic motor operating the rotating implement.

14. The safety door system of claim 13, wherein the predetermined amount is less than approximately ten percent.

15. (Currently Amended) The safety door system of claim 1, except that the interlock device is coupled between A safety door system, for a hopper body containing a powered implement powered by a hydraulic motor in a hydraulic control system, comprising:

a hopper body having a V-shaped floor for transporting liquid or granular materials, and further including a powered implement for dispensing the liquid or granular materials from an opening in the hopper body or for agitating the liquid or granular materials;

a safety door for covering and preventing access into the hopper body during use, hinged along a first edge to a corresponding first side of the hopper body and moveable between a closed and an open position;

a hydraulic actuating cylinder coupled between a second edge of the safety door and a corresponding second side of the hopper body and operative to open the safety door when the hydraulic actuating cylinder extends its length and to close the safety door when the hydraulic actuating cylinder retracts its length; and

an interlock device coupled between a predetermined location along an interface between the safety door and the hopper body and the hydraulic control system such that the powered implement within the hopper body is prevented from operating whenever the safety door is not in a substantially closed position against the hopper body;

wherein the interlock device comprises:

a solenoid-operated, normally open dump valve coupled in a supply path of hydraulic fluid to the hydraulic motor and operable to divert the flow of hydraulic fluid from the supply path to a fluid reservoir; and

a proximity switch coupled to the predetermined location on the interface between the safety door and the hopper body such that contacts in the proximity switch operate the solenoid-operated, normally open dump valve before the separation between the safety door and the hopper body has increased by more than a predetermined amount as the door panel is opened to prevent entry by a person or a person's limb into the hopper body.

16. (Cancelled)

17. (Currently Amended) The safety door system of claim 16- 15, wherein the interlock device causes interruption in the flow of hydraulic fluid to the hydraulic motor operating the powered implement.

18. (Original) The safety door system of claim 13, wherein the predetermined amount does not exceed approximately four inches.

19. through 32. (Cancelled)

33. (Original) The safety door system of claim 1, wherein the liquid or granular materials include magnesium chloride mixtures for conditioning icy road surfaces.

34. (Original) The safety door system of claim 1, wherein the liquid or granular materials include agricultural materials for seeding crops or conditioning the soil.